Claims

1. Printed circuit board comprising electrical conductor paths and means for electro-optical and/or opto-electrical conversion, characterized in that it also has optical conductor paths.

2. Printed circuit board according to Claim 1, characterized in that the optical conductor paths are fashioned as optical waveguides.

3. Printed circuit board according to Claim 1 or Claim 2, characterized in that the printed circuit board has, as a multilayer printed circuit board, a plurality of layers which contain electrical and/or optical conductor paths.

4. Printed circuit board according to any one of the preceding claims, characterized in that electro-optical and/or opto-electrical and/or optical means are integrated into the printed circuit board.

5. Printed circuit board according to any one of the preceding claims, characterized in that the means have passive and active optical functions.

6. Printed circuit board according to any one of the preceding claims, characterized in that the printed circuit board and/or the means have organic and/or inorganic materials.

7. Printed circuit board according to any one of the preceding claims,

characterized in that
the means comprise micro-electrical-mechanical systems, optical filters, optical switches, optical amplifiers, laser diodes, photodiodes, arrayed waveguide gratings, branches or taps, optical modulators or such like.

8. Printed circuit board according to any one of the preceding claims,
characterized in that
the optical conductor paths are fashioned from glass, silicon oxide, silicon dioxide or polymer and possibly contain doping.

9. Printed circuit board according to any one of the preceding claims,
characterized in that
the optical conductor paths have three-dimensional optical structures.

10. Printed circuit board according to any one of the preceding claims,
characterized in that
the printed circuit board has optical and/or electrical contacts / connecting elements.

11. Printed circuit board according to any one of the preceding claims,
characterized in that
means are fashioned as an add-drop multiplexer for an optical wavelength division multiplex signal.

5. Add-drop multiplexer according to any one of the preceding claims,
characterized in that
the optical conductor paths are fashioned from glass, silicon oxide, silicon dioxide or polymer.

6. Add-drop multiplexer according to any one of the preceding claims,
characterized in that
the optical conductor paths have three-dimensional optical structures, in particular such that two optical conductor paths which are arranged in different layers of the multilayer printed circuit board are connected to one another.

7. Add-drop multiplexer according to any one of the preceding claims,
characterized in that
the optical conductor paths contain doping.

8. Add-drop multiplexer according to any one of the preceding claims,
characterized in that
the add-drop multiplexer also has at least one of the following means:
electro-optical means,
opto-electrical means,
optical means.